

What is claimed is:

1 1. A return air apparatus for use with an air comfort appliance unit comprising:
2 a ceiling template mounted to the air comfort appliance unit at a ceiling of a recreational
3 vehicle and spaced from the air comfort appliance unit to form a plenum chamber between the ceiling
4 template and the air comfort appliance unit, the ceiling template having a discharge opening and a
5 return opening,
6 an air barrier extending from the ceiling template to the air comfort appliance unit dividing
7 the plenum area between the ceiling template and air comfort appliance unit into a discharge section
8 and a return section, the discharge section in communication with the an outlet of the air comfort
9 appliance unit, and the return section in communication with an inlet of the air comfort appliance
10 unit,
11 a return air cover with a direct discharge opening positioned below the discharge opening of
12 the ceiling template, and a return opening position positioned below the return opening of the ceiling
13 template,
14 a down draft diverter positioned in the air return cover over the direct discharge opening of
15 the air return cover, and
16 a return air grille with a first section positioned to communicate with the discharge opening
17 of the ceiling template and a predetermined area of the interior of the recreational vehicle, and a
18 second section positioned to communicate with the return opening of the ceiling template and the
19 interior of the recreational vehicle,
20 wherein air is discharge directly through the discharge opening of the return air grille, when
21 the down draft diverted is moved to create an opening between the down draft diverter and the
22 ceiling template.

1 2. The return air apparatus of claim 1, wherein return air enters the apparatus through the
2 second section in the return air grille, through inlet openings in the return air cover, and through
3 openings between the return air cover and the ceiling of the recreational vehicle.

1 3. The return air apparatus of claim 1, further comprising:
2 a filter positioned below the return opening of the ceiling template,
3 wherein said filter is positioned remote from the return air grille to maximize filter area and
4 minimize air flow resistance.

1 4. The return air apparatus of claim 1, wherein the down draft diverter has a rib on one
2 surface that interacts with mating grooves spaced in interval on the return air cover for
3 predetermined degrees of openness.

1 5. The return air apparatus of claim 1, wherein the air barrier includes perforated sections
2 providing tear off strips to allow sizing for various depth ceilings, and is self-sealing to the air
3 comfort appliance unit.

1 6. The return air apparatus of claim 1, further comprising:
2 circuit boards mounted in the return air cover for a filter indicator that indicates when to
3 replace the filter and a solar panel battery charging indicator that indicates when a solar panel is
4 charging.

1 7. A return air apparatus for use with an air comfort appliance unit comprising:

2 a ceiling template mounted to the air comfort appliance unit at a ceiling of a recreational

3 vehicle and spaced from the air comfort appliance unit to form a plenum chamber between the ceiling

4 template and the air comfort appliance unit, the ceiling template having a discharge opening and a

5 return opening,

6 an air barrier extending from the ceiling template to the air comfort appliance unit dividing

7 the plenum area between the ceiling template and air comfort appliance unit into a discharge section

8 and a return section, the discharge section in communication with the an outlet of the air comfort

9 appliance unit, and the return section in communication with an inlet of the air comfort appliance

10 unit,

11 a return air cover with a direct discharge opening positioned below the discharge opening of

12 the ceiling template, and a return opening position positioned below the return opening of the ceiling

13 template,

14 a down draft diverter positioned in the air return cover over the direct discharge opening of

15 the air return cover,

16 a return air grille with a first section positioned to communicate with the discharge opening

17 of the ceiling template and a predetermined area of the interior of the recreational vehicle, and a

18 second section positioned to communicate with the return opening of the ceiling template and the

19 interior of the recreational vehicle, and

20 a filter positioned below the return opening of ceiling template to maximize filter area and

21 minimize air flow resistance,

22 wherein return air enters the apparatus through the second section in the return air grille,

23 through inlet openings in the return air cover, and through openings between the return air cover and

24 the ceiling of the recreational vehicle,

25 wherein air is discharge directly through the discharge opening of the return air grille, when
26 the down draft diverted is moved to create an opening between the down draft diverter and the
27 ceiling template.

1 8. The return air apparatus of claim 7, wherein the down draft diverter has a rib on one
2 surface that interacts with mating grooves spaced in interval on the return air cover for
3 predetermined degrees of openness.

1 9. The return air apparatus of claim 7, wherein the air barrier includes perforated sections
2 providing tear off strips to allow sizing for various depth ceilings, and is self-sealing to the air
3 comfort appliance unit.